REMARKS/ARGUMENTS

Status of Claims

Claims 1-36 are currently pending in this application.

Applicants hereby request further examination and reconsideration of the presently claimed application.

Objections to the Drawings

The Examiner objected to the drawings filed by Applicants on January 24, 2006 for failure to show every feature of the invention specified in the detailed description. In response, Applicants have amended Figure 1 to address the Examiner's objections. Applicants submit concurrently herewith a ***Replacement Sheet*** for Figure 1. No new matter is introduced by way of the amendment. Applicants respectfully request approval of the ***Replacement Sheet***.

Claims Rejection – 35 U.S.C. § 102 and 35 U.S.C. § 103

Claims 1-36 stand rejected under 35 U.S.C. § 102(e) as being anticipated by or in the alternative under 35 U.S.C. § 103(a) as being obvious over Gabriel U.S. Patent Publication No. 2003/0134433 (hereinafter *Gabriel*). Claims 1-36 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over *Gabriel* in view of Bradley U.S. Patent Publication No. 2004/0043527 (hereinafter *Bradley*), Clawson WO 00/51186 (hereinafter *Clawson*), and Lieber U.S. Patent No. 7,129,554 (hereinafter *Lieber*).

According to MPEP § 2131, "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." Likewise, as noted by the United States Supreme Court in *Graham v. John Deere Co. of Kansas City*, an obviousness determination begins with a finding that "the prior art as a whole in one form or another contains all" the elements of the claimed invention. *See Graham v.*

John Deere Co. of Kansas City, 383 U.S. 1, 22 (U.S. 1966). Applicants submit that the cited references either singly or in combination do not disclose each and every element set forth in the pending claims. Applicants' claim 1 recites:

> "A field effect transistor comprising:
> a source;
> a drain;
> a gate;
> at least one carbon nanotube on the gate; and
> a dielectric layer that coats the gate and a portion of the at least one carbon nanotube, wherein the at least carbon nanotube has an exposed portion that is not coated with the dielectric layer, and **wherein the exposed portion is functionalized with at least one indicator molecule.**" (Claim 1, emphasis added)

Independent claims 9, 24, and 30 similarly recite the limitation that the carbon nanotube comprises an exposed portion that is functionalized. The Office Action erroneously asserts that *Gabriel* discloses a functionalized exposed portion (*See* Office Action page 3). Instead, *Gabriel* discloses:

> "One or more **molecular transducers 12, which represent a form of functionalization** that is responsive to specific target molecules, are positioned **so as to extend through coating layer 11**. The molecular transducers 12 are coupled to nanostructure 10. When a molecular transducer 12 interacts with a targeted molecule near the surface of coating layer 11, it transmits a signal representing the sensing of the targeted molecule to the nanostructure 10 through the coupling between the molecular transducer 12 and the nanostructure 10. **Full functionalization of the nanostructure is thus accomplished by the coating and the molecular transducer together**." (Paragraph 25, emphasis added)

Gabriel discloses structures wherein the functionalization occurs on a surface having a coating layer and the functionalizing molecules "extend through the coating layer." Thus, *Gabriel* does not disclose each and every element of the Applicant's claimed invention. Furthermore, the secondary elements are not cited by the Examiner for the purpose of providing such missing elements.

Additionally, *Gabriel* discloses that the coating layer and molecular transducer together provide "full functionalization of the nanostructure." Thus, *Gabriel* teaches away from the

Applicants' claimed structures which have an "exposed portion" lacking a coating layer. One of ordinary skill in the art when looking to *Gabriel* would not seek to modify the reference to create an exposed portion by removing a portion of the coating layer and functionalize the exposed portion as this would according to the reference be detrimental to "full functionalization of the nanostructure." In consideration of the foregoing, Applicants respectfully submit the pending claims are neither anticipated by nor are obvious in view of the cited references.

CONCLUSION

Consideration of the foregoing amendments and remarks, reconsideration of the application, and withdrawal of the rejections is respectfully requested by Applicants. No new matter is introduced by way of the amendment. It is believed that each ground of rejection raised in the Office Action dated May 6, 2008 has been fully addressed. If any fee is due as a result of the filing of this paper, please appropriately charge such fee to Deposit Account Number 50-1515 of Conley Rose, P.C., Texas. If a petition for extension of time is necessary in order for this paper to be deemed timely filed, please consider this a petition therefore.

If a telephone conference would facilitate the resolution of any issue or expedite the prosecution of the application, the Examiner is invited to telephone the undersigned at the telephone number given below.

Respectfully submitted,
CONLEY ROSE, P.C.

Date: 8-4-08

Rodney B. Carroll
Reg. No. 39,624

ATTORNEY FOR APPLICANTS

5601 Granite Parkway, Suite 750
Plano, Texas 75024
(972) 731-2288 (Telephone)
(972) 731-2289 (Facsimile)